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HOME ECONOMICS RESEARCH AT LAND-GRANT INSTITUTIONS, 1933-1934.

Contents.

- I. List of active projects, with project leaders, cooperation, and (as far as possible) source of financial support.
- II. List of references to published reports from November 1, 1932, to November 1, 1933.

Compiled by Sybil L. Smith
Office of Experiment Stations, U.S. Department of Agriculture.

I. ACTIVE PROJECTS.^{1/}

ARIZONA

The relation of nutrition to "mottled enamel" endemic in certain Arizona communities, 7/10/31, M. C. Smith, E. Lantz, and E. Blanchard, (Purnell).

The biological value of the hegari proteins and the supplemental value of certain protein concentrates, 7/10/31, M. C. Smith and G. H. Roehm, (Purnell).

The development of a height-weight-age table for Mexican children, G. H. Roehm, (State).

The nutritional value of the Mexican dietary, G. H. Roehm, (State),

ARKANSAS

The effect of a deficiency of the B vitamins on enzymatic activity, 10/10/33, B. Sure and M. C. Kik [Agr. Chem.] and M. E. Smith (Adams and Purnell).

CALIFORNIA

The effect of avitaminoses on the N metabolism of the rat, A. F. Morgan, E. F. Brown, and G. A. Emerson.

The vitamin B content of bread as affected by baking conditions, A. F. Morgan and H. Frederick.

The effect of parathyroid extract and vitamin D upon the composition of bones of rats and dogs, A. F. Morgan, Z. Samisch, and L. Kimmel.

Carotene absorption and vitamin A storage in rats, A. F. Morgan and L. Kimmel.

The vitamin B and G content of prunes, figs, and spinach, A. F. Morgan.

The relation of vitamins B and G to lactation in rats, A. F. Morgan and M. C. Simson.

The nature of the amino-acid deficiency produced by heat in casein, A. F. Morgan and E. O. Greaves.

The effect of high carbohydrate and high fat diets upon blood phosphorus partition, A. F. Morgan and N. Van Cleve.

^{1/}() = Source of financial support.

[] = Cooperating leader, department, or agency.

CALIFORNIA (cont.)

Study of the effect of diets rich in foods containing cholesterol, such as egg yolk, butter, liver, etc., on the tissue lipids of rats. (1) Study of the tissues of animals on purified diets containing cholesterol and various fat levels with adequate vitamin intake, with no vitamin A, and with no vitamin B, R. Okey and H. L. Gillum. (2) The study of the tissues of animals to which the cholesterol has been given in the form of egg yolk, R. Okey, E. Yokela, and G. Knock.

Studies of food consumption of dependent families receiving county aid in the form of unrestricted grocery orders, R. Okey, B. Smythe, and Heller Committee for Research in Social Economics.

An analysis of waitresses work load in department store restaurants, F. A. Armstrong and H. Davison.

The comparative cost of canned, fresh, and quick frozen vegetables for hospital use, F. A. Armstrong and E. Parks.

A study of a new method of preparation of oil emulsions involving determination of critical dispersion points and breaking points, I. S. Hall and E. Halstrom.

COLORADO

The baking of flour mixtures at high altitudes.--II, Physicochemical factors. Revised 8/15/32, I. K. Allison and M. A. Barmore, (Purnell).

CONNECTICUT

Factors that determine standards of living in farm homes--(a) Factors and conditions affecting the amount and use of family income in the Eastern Highland, 6/24/27; (b) An economic analysis of the food consumed by a selected group of families in the Eastern Highland, 6/24/30; (c) The cost and adequacy of the food consumed by farm families in Connecticut in 1929 compared with 1932, 8/22/32, E. V. W. Clapp, (Purnell).

FLORIDA

The relation of growth to phosphorus, calcium, and lipin metabolism as influenced by the thymus, 5/6/29, C. F. Ahmann, (Purnell).

A study of lecithin synthesis in hens on a vitamin A and lipoid-free diet, 7/23/32, O. D. Abbott, (Purnell).

A study of the changes which occur in the hematopoietic tissues of rats on a vitamin A-free diet, 7/23/32, O. D. Abbott, (Purnell).

A study of the chemical composition of the ash of Florida fruits and vegetables with reference to the more unusual constituents, 10/27/32, L. W. Gaddum, (Purnell).

A study of the chemical properties of the glucosides of citrus fruits, 10/9/33, L. W. Gaddum, (Purnell).

A study of the pathologic changes in tissues and organs of animals affected by deficiency diseases or by toxic substances, 10/9/33, C. F. Ahmann and W. M. Neal [Animal Husbandry], (Purnell).

IOWA (cont.)

Effect of different materials on cost and time of baking pie crust in the electric oven, L. Sater and G. Junge.

Indications of the effect of pressure in ironing linen with an electric iron, L. Sater and B. B. McLean.

Efficiency of vacuum cleaners, L. J. Peet and L. Sater.

Factors affecting the efficiency, use, and cost of operation of an electric range, L. J. Peet and L. Sater.

KANSAS

The influence of feed on the color, chemical composition, and cooking quality of the meat of grass fat cattle, 5/29/26, M. Kramer, [Animal Husbandry and Chemistry] (Purnell).

The composition and nutritive value of cooked meat as compared with the raw product, M. S. Pittman and M. M. Kramer.

The utilization by human subjects of the nitrogen and phosphorus of various cuts of meat, M. S. Pittman.

The vitamin content of foods relating to human nutrition. Subproject 2. Determinations of the vitamin content of foods. The vitamin A content of eggs produced by hens on definite rations, mostly rations designed to affect the color of the yolk, Revised 4/6/32, M. Kramer and R. McCammon, [Poultry Husbandry], (Purnell).

The utilization of calcium and phosphorus from various forms of milk products. Subproject 4. A study of the utilization of calcium and phosphorus from various types of cheese, Revised 4/6/32, M. Kramer and R. McCammon, (Purnell).

The effect upon the animal body of varying the amount of vitamin in the diet. Subproject 1. The effect upon the animal body of varying the amount of vitamin C in the diet with special reference to reproduction and the development of the embryo, 4/6/32, M. Kramer and M. T. Harman [Zoology], (Purnell).

A study of electric and other types of stoves commonly used in farm household cooking processes, 11/27/28, M. F. Taylor, (Purnell).

A study of factors affecting the service qualities of certain textile fabrics (proposed revision) (Purnell).--1, The protective value of certain clothing fabrics against heat loss from the body--blanket materials, 4/6/32, M. M. Justin, K. Hess, and E. Bruner. 3, The effect of heat, light, and perspiration on the service qualities of weighted and unweighted silk fabrics. The effect of A, dry and moist atmosphere; B, human and synthetic perspiration; and C, light of different wave lengths on the service qualities of weighted and unweighted silk fabrics, M. Justin, A. Latzke, and E. Bruner [Chem. and Physics]. 4, The service qualities of fabrics with regard to adequate labeling--A, qualities of percale obtained on the market compared with Government specifications; B, a comparison of the absorptive qualities of certain fabrics; C, a comparison of the effect of home and power laundering on the service qualities of certain fabrics, M. Justin, E. Bruner, A. Latzke, and K. Hess [Physics].

KENTUCKY

The metabolism of obesity, 10/20/25, S. Erikson, (Purnell).

Studies of the antirachitic potency of the sun's rays at the latitude of Kentucky, 7/1/27, [J. H. Martin and W. M. Insko, Poultry Husbandry], and S. E. Erikson and R. Boyden, (Purnell).

MAINE

The economic utilization of electricity in food preparation in Maine rural homes, Revised 8/29/32. (1) The relation of size, shape, materials, and other qualities of utensils to their efficiency in electrical cooking. (2) The management of food preparation processes to secure economy and palatability of product with electrical cooking equipment, M. M. Monroe and M. D. Sweetman, (Purnell and Hatch).

The factors affecting the cooking quality of potatoes, Revised 8/29/32. (2) The relation of internal composition and physical structure of the potato to mealiness, M. D. Sweetman and M. M. Monroe, (Purnell).

A study of the financing by Maine families of higher education of their children in Maine institutions, 7/13/33, P. S. Greene, (Purnell).

A comparison of certain canning methods current in Maine with standard processes, M. L. Stewart, (College funds).

MARYLAND

Cake and biscuit making qualities of several varieties of Maryland wheats, C. Welch, (Departmental).

MASSACHUSETTS

The comparative values of milk and tomato as supplementary feeding in a rural elementary school, 8/23/29, B. C. Wait, O. Merriam, and M. O'Donnell, (Purnell).

The value of evaporated milk for school food service, 6/3/30, B. C. Wait, O. Merriam, and M. O'Donnell, (Purnell).

The effect of mid-morning feeding on the appetite for the noon meal and the total daily food intake of children, 5/10/33, B. C. Wait and O. Merriam, (Purnell).

MICHIGAN

Determination of the food requirements of children. (1) A quantitative study of the food intake of normal preschool children. (2) The protein requirements of the preschool child. (3) The mineral requirements of the preschool child, 11/1/28, M. Dye, J. Hawks, and M. Bray, (Purnell).

A study of the B vitamins, 10/30/31, M. Halliday and M. Olson, (Purnell).

A study of changes in standards of consumption during a period of depression, 6/17/32, I. H. Gross and J. Fuller, (Purnell).

MINNESOTA

The relation of diet to blood regeneration.--2. The distribution of nitrogenous constituents of the blood during blood regeneration, 3/1/28, J. M. Leichsenring, (Purnell).

A study of bound and free water in meat, 10/4/28, A. Child, (Purnell).

Factors affecting the selection, care, and wearing qualities of textile materials. (1) A study of fiber quality and physical properties in relation to cost of staple wool materials (wool, flannels, serges, and gabardines), 3/1/28, E. L. Phelps, (Purnell).

A study of the quality and quantity of juice in cooked meat, 6/9/32, A. M. Child, (Purnell).

Studies of consumer choices in the purchase of textile products: A survey of purchasing habits in the selection of silk street dresses, 10/11/33, E. L. Phelps, (Purnell).

MISSISSIPPI

Studies in nutritional anemia:

1. Studies on green vegetables: (a) The effect of feeding green leafy vegetables on nutritional anemia as compared with feeding liver; (b) the determination of the substances in vegetables which are effective in the treatment of nutritional anemia, Revised 8/18/32, O. Sheets, (Purnell).
2. Studies on sorghum, sugar cane sirup, and blackstrap molasses: (a) The effect of feeding sorghum and sugar cane sirups and blackstrap molasses on nutritional anemia; (b) the determination of the substances present in sorghum and sugar cane sirups and blackstrap molasses which are effective in nutritional anemia; (c) the effect of cooking sorghum and sugar cane sirups in iron and copper pans on their iron and copper content, Revised 8/18/32, O. Sheets, (Purnell).
3. Studies on the mineral content and anti-anemic potency of lettuce and spinach as affected by the nitrogen supply: (a) The influence of nitrogen supply on the mineral content of leaf lettuce and spinach; (b) the value of leaf lettuce and spinach containing varying quantities of iron and copper in nutritional anemia, Revised 8/18/32, O. Sheets and [J. B. Edmond, Horticulture], (Purnell).

A study of farming and nonfarming sons and daughters of Mississippi farmers leaving school during the post-war period, 1919-33, 9/27/33, D. Dickins, (Purnell).

MISSOURI

A study of the effect of temperature and time of cooking on quality and palatability of meat, 6/10/26, Revised 7/21/33. Subproject XII. A study of searing versus constant temperature methods of roasting meats with reference to pork, lamb, and veal, J. A. Cline, (Purnell). Subproject XIII. A study of the effect on palatability and cost per serving of methods of cooking less tender cuts of beef (continued), J. Cline, (Purnell).

Influence of methods of handling foods on their vitamin content, Revised 8/13/32. A. Vitamin A, B, G, and D content of egg yolks from light, medium, and dark golden eggs, B. Bisbey, (Purnell).

Durability of cotton fabrics.--I, A study of the durability of white and colored cotton fabrics as affected by wear and home and commercial laundering. II, A study of the reliability of consumer's judgment as to the durability of cotton fabrics, A. E. Ginter, (Purnell). Revised 2/2/32.

MONTANA

Effect of feeds on grades and quality of lamb, 1/25/27. Subproject--Influence of barley and oats on the quality and palatability of lamb; J. E. Richardson and H. Mayfield [Animal Husbandry] (Purnell).

Selection, care, and wearing quality of women's hosiery, 3/9/31, J. E. Richardson, (Purnell).

Food preservation.--I, Vegetables (onions), J. E. Richardson and H. Mayfield, (Purnell), 9/26/25.

The vitamin content of vegetables in winter storage, onions (vitamins B and C), J. E. Richardson and H. Mayfield, (Purnell). 8/30/26.

The relative palatability and vitamin content of vegetables preserved by drying, salting, and fermentation.--I, Sweet corn, 10/19/33, J. E. Richardson and H. Mayfield, (Purnell).

NEBRASKA

A study of electric cooking stoves, 1/15/31, A. E. Baragar and E. B. Snyder, (Purnell).

A study of the family history and standards of living of farm families in selected districts of Nebraska, 1/28/31, M. R. Clark, (Purnell).

Factors determining the variability in the cooking qualities of navy beans, 6/2/33, E. B. Snyder, (Purnell).

A study of the relief agencies available to Nebraska farm families and of the use of such agencies since 1929, M. R. Clark, (Purnell).

A study of gas stoves, 7/14/33, A. E. Baragar, (Purnell).

Factors affecting the quality and palatability of meat.--A, Changing grass-fed beef to corn-fed beef. B, Effect of certain feeds upon the quality and palatability of pork, 7/9/25 and 11/20/31, [H. J. Gramlich, W. J. Loeffel], and M. Peters [Animal Husbandry], (Purnell).

The use of lard in home baking.--I, The use of lard for cake making, 10/25/33, [H. J. Gramlich and W. J. Loeffel, Animal Husbandry] and R. Gibbons and M. Peters, (Purnell).

NEW MEXICO

A study of losses incurred in cooking and the factors affecting the palatability of the New Mexico pinto beans; with a later similar study of the bayo and other varieties of beans, 11/19/28, M. L. Greenwood, (Purnell).

The vitamin B and G content of New Mexico pinto beans.--The effect of different methods of cooking and the effect of aging upon the content of these vitamins, 5/21/31, M. L. Greenwood, (Purnell).

NEW YORK

Management analyses of households, 8/1/28, H. Canon and J. Kramer, (Purnell) (State).

Cost of living of farm families, 7/25/29, H. Canon and A. Hotchkiss, (Purnell) (State).

Methods of household buying, 7/25/29, M. Fish, (Purnell) (State).

Cost of living index for farm families, 7/9/25, H. Canon and M. Rollins, (Purnell) (State).

Study of when to buy or the possibility of saving money by a judicious timing of purchases for the household, 7/31/30, D. Monroe and L. M. Doman, (Purnell).

Further studies on practices in infant feeding and the physical development of infants, 7/9/31, H. Monsch and R. S. Bizal, (Purnell) (State).

The quality of New York State fruits and vegetables.--A, The comparative cooking quality of apples, 8/7/31, M. C. Pfund and E. Macloon [Pomology, N. Y. State Station], (Purnell) (State).

A study of variations in retail prices of given articles in the same city on the same day, 7/28/32, D. Monroe and L. Doman, (Purnell).

A study of infant feeding practices and the physical and mental development of students in the College of Home Economics, 7/28/32, H. Monsch, (Purnell) (State).

A study of the use of standard grades and other specifications as to quality and quantity in household buying, 7/28/32, D. Monroe and M. Gunselman, (Purnell).

NEW YORK (cont.)

Energy metabolism of infants and small children, 10/25/33, H. Canon and E. Bates, (Purnell) (State).

A study of the situations young children most frequently meet, responses they make to them, and the guidance offered by adults, E. B. Waring, (Departmental).

A study of the variety of nervous behavior exhibited by nursery school children under different circumstances as evidenced by five-minute check periods. Staff of Nursery School, (Departmental).

A study of methods of helping mothers solve the daytime sleep problems of their children, E. A. Tasker, (Departmental).

A study of the response of a group of twelve nursery school children to dinner menus and their preferences for individual foods, J. B. McCay, (Departmental).

A study of the effects of ultraviolet irradiation on a group of pre-school children, H. D. Bull, (Departmental).

A study of the changes in hemoglobin and red blood counts in normal children, H. D. Bull, (Departmental).

A study of the stimulation of correct posture in young children through spontaneous and directed activity with adequate play equipment.

A study of the spontaneous language of young children, K. Reeves.

A study of the selective behavior of two groups of pre-school children in response to problem situations which are presented in two ways, E. B. Waring

A study of the recalled events of early childhood by freshman students and the influence they think these events have had on their later experience, M. B. Fowler.

A study of the clothing and toy equipment of 60 children from 3 to 4 1/2 years old, and a tentative budget for this age group, M. Dixon and D. Monroe.

Analysis of behavior of young children according to the Gestalt School, K. Lewin and Staff of Nursery School.

A statistical study of clothing expenditure for farm families in Dryden and Lansing townships, Tompkins County, for the year 1927-28, B. Blackmore and E. Hopper.

A diagnostic test in textiles and costume design for students at college level, M. Brasie.

A study to develop techniques which may be used in determining the relation between the wardrobe a freshman brings to college, her subsequent social activities, and her apparent adjustment to college life, Textiles and Clothing Staff.

A collection of data on college girls' underwear -- size, cost, type, material, satisfaction in service (contribution to a larger consumer study).

Census of home makers reached by the extension service, Extension Staff and D. Monroe.

NORTH CAROLINA

A case study of factors in the family organization conditioning the living of farm owners in Wake County, 6/18/29, Revised 7/17/30, M. deHaven Woodruff, (Purnell).

NORTH DAKOTA

Factors which influence the quality of meat, 8/4/25.--A, Standard vs. constant temperature roasting of veal, B, Shrinkage and available meat servings from veal carcasses, E. Latzke, (Purnell).

Influence of cooking and canning on the content of antineuritic and antipellagric vitamins in meats, 11/2/29 [F. W. Christensen], E. Latzke [T. H. Hopper, Animal Husbandry], (Purnell).

The vitamin A, B, and G content of buttercup squash, 8/9/32, E. Latzke, F. W. Christensen, and [A. F. Yeager, Horticulture], (Purnell).

OHIO

A study of the food habits and physical development of preschool children over a two^{year}-period, with special reference to seasonal variations in growth, 10/28/31, F. L. Gorrell and H. McKay, (Purnell).

Basal metabolism of women over 35 years of age, 10/25/29, F. L. Gorrell and H. McKay, (Purnell) (State).

Influence of position isomerism (structural differences) in azo dyes on their fastness to light and washing, 10/28/31, F. L. Gorrell and M. E. Griffith, (Purnell) (State).

Color, consistency and flavor of Ohio potatoes which have been produced under different conditions and boiled for table use, 10/28/31, F. L. Gorrell and H. McKay, (Purnell) (State).

OKLAHOMA

The quantitative determination of vitamins B and G, 12/6/29, R. Reder and M. Haddad, (Purnell).

A comparative study of the possibilities of economic contributions by farm home makers in different agricultural districts of Oklahoma, 3/11/30, G. Fernandes and L. Conner, (Purnell).

The rate of digestion and absorption of carbohydrates in rats on a diet deficient in vitamins B and G, 10/14/31, R. Reder (Purnell).

OREGON

The farm home, M. Wilson (Purnell).

RHODE ISLAND

A study of the food habits of children of school age from 6 to 16 years in rural Rhode Island, 4/7/32, M. Whittomere and B. M. Kuschke, (Purnell).

SOUTH CAROLINA

An economic study of food consumption of farm families in the South Carolina Piedmont, 12/3/31, A. M. Moser, (Purnell).

SOUTH DAKOTA

The influence of various grades of wool on some of the physical properties of flannel, 11/17/31, E. Pierson, (Purnell).

The vitamin B and G content of lamb muscle, liver, pancreas, and thymus and the vitamin C content of lamb liver, 9/21/33, E. Pierson and M. Kellogg, (Purnell).

TENNESSEE

Sweetpotato vinegar--An investigation of methods with special regard to home production, [G. A. Shuey, Chemistry], (Purnell).

Sweetpotato sirup--An investigation of possibilities of home production, G. A. Shuey, (Purnell).

Vitamin A contents of different varieties of sweetpotatoes (Southern Queen and Triumph), 7/11/32, F. L. MacLeod, (Purnell).

Vitamin G content of vegetables grown in Tennessee, Leaf Lettuce, peas, cabbage, and sweetpotatoes, 7/11/32, F. L. MacLeod, (Purnell).

A study of Tennessee family living.--A, Family life (A study of quality of living), E. J. Day; B, Housing and real income (A study of quantity of living), E. L. Spier.

TEXAS

Adequacy of the diet of Texas school children, 10/20/27, J. Whitacre, (Purnell).

The influence of Texas sunlight on the durability and color of cotton fabrics, 1/21/28, M. Grimes, (Purnell).

Growth in height and weight of Texas school children, 6/4/28, J. Whitacre, (Purnell).

UTAH

A study of factors promoting positive health in rural school children, 9/9/31, A. P. Brown.

The chemical and physical differences between soft-curd and hard-curd milk, 7/1/32, R. L. Hill, Human Nutrition, (Purnell).

VERMONT

The amount of time spent and the number of steps taken in kitchen work in relation to the kind and arrangement of equipment used, 5/15/30, M. Muse, (Purnell).

The relative economy of household production and of the purchase of white bread, 8/8/31, M. Muse and M. Liston, (Purnell).

A study of some of the factors determining desirable allocations of cash for purchase of food by Vermont farm families, 10/11/33, M. Muse and D. Emery, (Purnell).

VIRGINIA

The cooking quality and palatability of soft pork, 6/4/29, P. B. Potter and I. M. Bailey [Animal Husbandry], (Purnell).

Rural family living in Grayson County, Virginia, 6/1/31, H. N. Young and I. M. Bailey [Bur. Home Econ.], (Purnell).

Home laundering investigations, 7/22/30, Tests to evaluate factors of washing. Effect of laundering on fabric of clothes, P. B. Potter, (Purnell).

An investigation of the reliability of oven regulators, 7/22/30, P. B. Potter, (Purnell).

WASHINGTON

The vitamin C content of Washington apples, 9/15/32.--(1) The effect of increasing and decreasing the ratio leaf area : fruit on the vitamin C content of Delicious and Winesap apples. (2) A direct comparison of the chemical and biological methods of estimating vitamin C (ascorbic acid) as applied to apples. (3) The vitamin C content of Winesap apples before and after storage at 32° and 45° F., E. L. Batchelder, (Purnell).

The vitamin A and C content of frozen blackberries, E. L. Batchelder, (Departmental).

The vitamin A and D content of a cod-liver oil used in experimental feeding of poultry, E. L. Batchelder, (Departmental).

Household management project not yet submitted, E. Roberts.

WEST VIRGINIA

Histology of bone growth in vitamin-deficient animals, 4/1/32, H. C. Cameron, (Purnell).

The relation of vitamin A intake to common colds, 8/15/33, H. C. Cameron [Biology], (Purnell).

WISCONSIN

The metabolism of proteins, particularly as influenced by pregnancy and lactation, 11/27/29. The nature of the injurious quality in raw egg whites and means of prevention or curing the injury, H. Parsons, J. Lease, and E. Kelly, (Purnell).

✓ A study of adjustments to the depression by Wisconsin farm families (Home Economics phase - Changes in Food Consumption), 8/4/31 [J. H. Kolb, P. E. McNall, and E. L. Kirkpatrick], M. Cowles [Agr. Econ., Rural Soc., U. S. Bur. Agr. Econ.], (Purnell).

The role of bacteria in the digestive tract, 9/1/33, H. Parsons and E. Kelly, (State).

WYOMING

Comparison of the culinary properties of dry land and irrigated potatoes (1 Bliss Triumph, 2 Cobbler), 2/26/30, E. J. McKittrick and E. J. Thiessen, (Purnell) (State).

The effect of storage upon the vitamin C content of Wyoming dry land and irrigated potatoes (Bliss Triumph), 3/25/30, E. J. McKittrick and E. J. Thiessen, (Purnell) (State).

Basal metabolism of college women at University of Wyoming, 5/5/32, E. J. McKittrick and E. J. Thiessen, (Purnell).

II

PUBLISHED REPORTS

November 1, 1932--October 31, 1933.

ALABAMA

Quantitative determination of calcium by the magneto-optic method, E. R. Bishop and C. B. Dollins. Jour. Amer. Chem. Soc., 54 (1932), pp. 4585-4588.

ARIZONA

Progress report in Arizona Sta. Rpt. 1931-32, pp. 98-102.

Experimental production of mottled enamel, M. C. Smith and E. M. Lantz. Arizona Sta. Tech. Bul. 45 (1933), pp. 325-359.

The vitamin A content of alfalfa as affected by exposure to sunshine in the curing process, M. C. Smith and I. A. Briggs. Jour. Agr. Res., 46 (1933), pp. 229-234.

The antirachitic value of alfalfa as affected by exposure to sunshine in the curing process, M. C. Smith and I. A. Briggs. Jour. Agr. Res., 46 (1933), pp. 235-240.

The relation of calcium and phosphorus in the diet to the cause of mottled enamel of human teeth, R. M. Leverton and M. C. Smith. Jour. Home Econ., 24 (1932), pp. 1091-1097.

Changes in the incisors of albino rats accompanying a deficiency of vitamin A, M. C. Smith and E. M. Lantz. Jour. Home Econ., 25 (1933), pp. 411-415.

The effect of the feeding of fluorides upon the chemical composition of the teeth and bones of albino rats, M. C. Smith and E. M. Lantz. Jour. Biol. Chem., 101 (1933), pp. 677-683.

ARKANSAS

Progress report in Arkansas Sta. Bul. 280 (1932), pp. 45, 46.

Dietary requirements for fertility and lactation. IV, The specific effect of vitamin B on lactation and growth, B. Sure, M. C. Kik, D. J. Walker, and M. E. Smith. Arkansas Sta. Bul. 284 (1933), pp. 31.

Biochemistry and pathology of avitaminosis. I, Hematopoietic function in deficiency diseases, B. Sure, M. C. Kik, D. J. Walker, and M. E. Smith. Arkansas Sta. Bul. 286 (1933), pp. 39.

Avitaminosis. XIV, Effect of vitamin A deficiency on concentration of blood lipids of albino rats. XV, Effect of vitamin D deficiency on concentration of lipids of blood of albino rats, B. Sure, M. C. Kik, and A. E. Church. Proc. Soc. Expt. Biol. and Med., 30 (1933), pp. 620-622.

CALIFORNIA

A comparison of apricots and their carotene equivalent as sources of vitamin A, A. F. Morgan and E. O. Madsen. Jour. Nutrition, 6 (1933), pp. 83-93.

The effect of cooking on the vitamin A and C content of fresh and dried apricots, A. F. Morgan, A. Field, and P. F. Nichols. Jour. Agr. Res., 46 (1933), pp. 841-850.

The effect of light upon the vitamin A activity and the carotenoid content of fruits, A. F. Morgan and L. L. W. Smith. Jour. Biol. Chem., 101 (1933), pp. 43-54.

CALIFORNIA (cont.)

Vitamin tests on California and Asiatic dates, A. F. Morgan. Jour. Home Econ., 25 (1933), pp. 603-611.

The effect of carbon dioxide and sodium benzoate on vitamin C content of orange juice, A. F. Morgan, C. I. Langston, and A. Field. Indus. Engin. Chem., 25 (1933), pp. 1174-1176.

The effect of moderate doses of viosterol and of parathyroid extract upon bone composition, A. F. Morgan, L. Kimmel, R. Thomas, and Z. Samisch. Proc. Amer. Soc. Biol. Chem., 27 (1933), p. LXXI.

The effect of diet upon response to parathyroid extract and vitamin D. I. The relation of calcium and phosphorus of the diet to response to parathyroid extract in rats, A. F. Morgan and J. G. Field.

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III. The effect of low calcium-high phosphorus diets on dogs, A. F. Morgan, E. A. Garrison, and M. J. Hills.

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